



Panda

WWF-India Newsletter

June 2005

Living Beyond Our Means



Five Treasures
of the Snow



World
Environment
Day

From the CEO's Desk

Dear Friends,

This issue of the Panda encapsulates many of the challenges facing conservation and provides the readers with views, directions, events and facts that have incidental and continuing impact on our lives. At the forefront are the Ganges Dolphins whose role in the health and generation of our ecosystem has been underplayed. WWF India's conservation initiative for this mammal is brought to you—reporting on our campaign in Garhmukteshwar and Narora. Our own celebration of the World Environment Day on 5th June, 2005 is covered here where our day programme incorporated events such as nature trails and street plays with children, on how to keep the city green and an address by Roshan Seth. The theme of this year was Green Cities—to encourage us to think about our surroundings and do something to change them for the better.

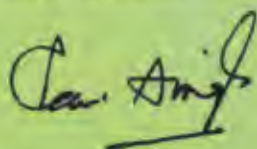
We bring excerpts from the Millennium Ecosystem Assessment on the Pressures and Changes and a brief on the Conference of the Parties (COP-I) on Persistent Organic Pollutants (POPs) to inform readers on some of the important international developments concerning the environment.

WWF India's work in the Khangchendzonga Landscape is gradually increasing and we are proud to be working for conservation results in this area. Our focus in this area has increased this year and we will be bringing you some of the results in coming issues.

We report on the Openbill Storks in Kheri in Uttar Pradesh pointing to the challenges facing our wildlife in this area and bring you an article on the very regrettable incident of the shooting of blackbuck. These combined show the two sides of a coin, each of which goes against long-term conservation in India. On the one hand, it is the pressure from villages and grazing, and on the other, gradual decimation by hunting in some areas of India.

There are other reports—the Swamp deer in the wetland of Jhimil Taal in Haridwar District and the Flamingos in Mumbai—that give us hope that despite threats, with some care, these sights will remain with India.

We also thank our readers who have been sending in comments and suggestions and we look forward to them. We have in the last two years noted the growing interest of people wishing to contribute to this newsletter from various walks of life. We deeply appreciate this and encourage them to do so.



Ravi Singh
Secretary General & CEO
WWF-India

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Editor: Ravi Singh

Editorial board: Sudipto Chatterjee,
Parikshit Gautam, Lima Rosalind, P.K. Sen,
Ranjit Talwar

Consulting Editor: Sikha Ghosh

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WWF-India

172-B, Lodi Estate, New Delhi - 110 003

Tel: + 91 - 11 - 5150-4815/16

Website: www.wwfindia.org

E-mail: communications@wwfindia.net

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Katarina Ghat
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Abhinav Bhargava / WWF India

▲ Children with posters at the rally in Garhmukteshwar.

Of Dolphins and Development

What is the connection between a *gurukul*, a small densely populated village called Farida, a town with an atomic power station and Shweta Nanda (nee Bacchan)? Believe it or not, the common thread that weaves all these together is the freshwater dolphin of the Ganges! You have read our article on the dolphins and the mega awareness rally undertaken by the WWF to educate people on the plight of the freshwater dolphins of the world. So on 7 and 8 May we brought the campaign on the freshwater dolphin to a successful conclusion.

Early on 7th morning a whole bunch of us from WWF-India, accompanied by journalists from major newspapers and TV channels set out for a two-day tour of the stretch from Garhmukteshwar to Narora. We had with us Shweta Nanda who had very kindly agreed to endorse this effort of the WWF. For one reason or the other, the event got postponed and so when we started out it was promising to be a scorching day. Our first stop was at Brijghat at Garhmukteshwar. On the banks of the Ganges we had a big meeting with the children from several schools, their teachers and the local residents. Addressing this large group R. K. Singh, Conservator Forest, UP Forest Department, recalled his first encounter with a dolphin when as a student of Science College,

Patna, in the distant 70s he was swimming in the Ganges. A dolphin rose next to him and he was so awestruck he fainted and his friends had to bring him ashore. The sight of that sleek animal has remained with him as fresh as ever even after thirty years. Present were also the Chief Development Officer of District Gaziabad, SP Rural, District Forest Officer, Gaziabad, Wildlife Warden, Shweta Nanda, Parikshit Gautam, Director of our Freshwater Programme and Sandeep Behera, the prime mover behind the dolphin conservation programme of the WWF.

The children of this area are clued up about the river dolphin, as Sandeep has been working in this area for a while and they had made very beautiful posters in support of the dolphin and the river. They looked bright and fresh despite the heat, in their blue dolphin T-shirts and WWF dolphin caps, while the rest of us were trying our best to appear cool.

It was noon by the time we set out on the boat trip. There were five boats with outboard motors and fifty of us set out down the river for a little village called Puth, 20 km. down from Brijghat. Upstream of Brijghat is a good dolphin place and Shweta and a whole lot of others saw their first river dolphin, and there was much excitement.



▲ Dignitaries and children at the rally in Garhmukteshwar.

Pankaj Gautam / WWF India



▲ On the way to Narora. From left to right: Charan Singh, Sandeep, Keller Rainer, Saurabh, Self, Abhishek and Radheyshyam.

We, however, didn't catch a glimpse. We passed Shimbhawali, which is midway between Brijghat and Puth where a sugar mill is situated. The mill discharges its untreated effluent into the Ganges and you can see that the river has a broad black stream running up to Puth. Because of the pollution no dolphins are sighted here.

We arrived at Puth around two in the afternoon. Everyone was wilting after being under the burning sun for two hours. But we were greeted with glasses of cold water by the students of the *gurukul* (traditional Hindu school for boys) run by Acharya, Dr Dharampat. Here too it was amazing to see that the children and the people from the

village knew about the river dolphin and the WWF's work to conserve them. They are acutely aware of the pollution in their part of the river as their cattle get sick after drinking the water. They know that helping WWF to save the dolphin means saving their water source and their cattle.

Shweta being our chief guest was greeted with garlands and tika. The boys sang beautiful Sanskrit hymns. But the highlight of the afternoon was when the Acharya announced that a floral wreath would be held above Shweta's head by a string and one of the boys would demonstrate his archery skill by severing the string with his bow. There was an initial nervous silence. The Acharya sensing this said with great authority that there was nothing to fear. The boy archer came forward and with one arrow severed the string and the wreath fell around Shweta's neck. The combined breaths that were held for those few seconds were released to thunderous clapping. We had lunch prepared at the *gurukul* and served by the boys. It was a simple vegetarian meal. Delicious—a deliciousness that is not encountered in cities.

Puth is supposed to be the place where Dronacharya, the famous weapons master and archer who taught the Kauravas and the Pandavas of the epic Mahabharata, the art of war. The people of the area believe that the *gurukul* tradition remains unbroken from the time of Dronacharya!

Some of us pushed on to the little village of Farida after lunch at the *gurukul*. The two-hour trip down the Ganga was bearable as the worst

of the heat was over. Around six we arrived at the village. The boats were tied up and we crossed the sandy beach and made our way to the village. The villagers had made arrangements for our reception under a great big spreading tree. Everyone knows Sandeep here and he is greatly beloved. The villagers are his friends because he has been working out of this village for years. Yet when he first arrived here people were hostile and many threatened to beat him up. But slowly he built up rapport with the villagers. They became interested in his dolphin conservation work. He was not the big bad city man they thought he would be. He took interest in their problems and advised them. The village had practically no infrastructure. With Sandeep backing them and making appointments for them with the local administration the village now has paved roads. The one dysfunctional primary school is again functioning, and not only that, the village now has a secondary school. Apart from which a couple of the educated villagers have opened a 'private school' with about 150 students. Over the many interactions the villagers have discovered the harmful effects of pesticide and have now gone back to using neem extracts as a substitute. Chemical fertilizers are on the wane and following Sandeep's advice an area of the village has been reserved for a compost heap and where families can collect and store cow dung for use in the fields when required.

Coming from the city these don't appear as great advantages. But for the villagers it has been a sea change. Farida is considered a model village. Villages around the area come to seek the advice of the headman and elders of Farida so that they can improve their villages as well. The River Dolphin Programme of WWF has helped this area enormously in many different ways.



▲ Villagers at a River Dolphin workshop, Farida.

We spent one night here. Dinner was wonderful, as expected with the same wonderful flavours that city vegetables just don't have. After a glorious meal we all went to sleep. I had little sleep because of the mosquitoes, which were certainly more robust than the city ones and insect



▲ Shweta Nanda at Garhimukteshwar.

repellents were useless. I am a staunch believer of what the eye does not see the heart does not grieve over. I also believe that if mosquitoes have not heard of repellents then they do not exist for them. But there was a strong cool breeze which was most soothing.

We left the next morning for Narora (a town famous for its atomic power station), six hours down river. By the second day I was inured to the sun and the heat and was able to pay more attention to my surroundings. There is a stretch between the temple of Amantika Devi and Anup Shahar where dolphins are sighted most frequently. We were lucky we spotted twenty-eight dolphins! I was so thrilled to see the sleek black bodies knife out of the water and disappear before I could blink my eye. We also saw a mother and calf which was quite an amazing experience. Unlike sea dolphins, which rise high into the air, these don't, so despite our great determination we could not photograph a single one. Before you could focus your camera there was nothing but ripples in the water.

The water was not very deep and sometimes the blades of the rotor get stuck in the sand! For me it was incredibly sad that a river as mighty as the Ganges has come to such a sad pass. I could see turtles sitting on the banks sunning themselves but as we approached they would all dive one after the other into the water, it was as if the whole had been choreographed. The banks were honeycombed with nests of birds, of which we saw many—the parakeet, stone curlew, the green bee eater, ducks and cranes. I was dependent on others to identify them for me. At a couple of points we saw illegal sand-mining being carried out.

We passed Karnawas, the place where the great Karna of the Mahabharat lived and where he is believed to have donated 1.25 maunds (a maund is slightly less than 40 kg.) of gold everyday. This whole stretch of the river is steeped in mythical lore from the Mahabharat. We filled our water bottles here. And here too were WWF supporters in the cause of the river dolphin. As we had finished our lunch (which was delicious *parathas* and *sabji* made by the village headman's daughter-in-law) long before the lunch hour, Parikshit was forced to buy was all lunch of *alu* and *puree* and *jalebis* at Anup Shahar. The river, the open air, made all of us ravenously hungry. Sandeep, Abhishek and Saurabh went into the water when it got too hot. The latter two can't swim so they had life jackets on. Sandeep is good swimmer and I tell him he resembles a dolphin! I was content to drag my hand through the water and Parikshit kept busy taking pictures.

We reached Narora at around 4.30 in the evening and we had our final meet on the river dolphin there on the grounds of the Irrigation Guest House. Here too we had a huge crowd of supporters—school children, school teachers, residents of Narora, staff from the atomic power station and irrigation department staff. The Chief Guest was O.P. Goyal, Director, Narora Atomic Power Station. The Guest of Honour was Madan Bashist the Chairman of the Nagar Panchayat, Narora. It was amazing to see how these people who would normally be seen as 'enemies' of conservation come forward to extend all the help to keep the river clean and protect the dolphin.

Throughout the two hectic days we had unflinching help from Raju and Swati who looked after the organizational side of this campaign. Two others for whom I felt immense admiration were Radheshyam and Charan Singh, the 'crew' of our boat who cheerfully steered us despite the motor giving constant problem, as a part had broken.

We left for Delhi by road later that evening, tired and sun-burnt but happy. We had covered roughly 80km. by boat. I forgave Sandeep and Parikshit for the mosquito bites, the heat, and the fact that I had to hold my cell phone torch between my teeth (pirate fashion) in the pitch-black bathroom! They had promised me a bathroom, they just did not say what kind. But who cares, we had seen dolphins and accomplished what we had set out to do.

Of Dolphins and Development

Achshay Bhattacharya / WWF-India



▲ Concluding session at Narora.

The stretch of the Ganges from Garhmukteshwar to Narora is soon to be declared a Ramsar Site (wetland of international importance).



▲ River bank honeycombed with bird nests.



▲ Illegal sand mining being carried out.

WWF India



▲ Female Blackbuck

'Blackbuck' is the name of the male of the species *Antelope cervicapra* or the Indian Antelope. Once abundant in the plains of the Indian subcontinent, their populations were decimated as humans brought more and more scrubland under the plough leaving no refuge for handsome antelope.

Even during the days when hunting of the blackbuck was permitted under license, only males with over 20 inches long horns were permitted to be shot. No *shikari* of any standing or repute ever targeted females of the species because they breed throughout the year. In fact, wherever discernable from a distance, *shikar* ethics did not permit the shooting of females of most mammals and even some birds. Unfortunately, in this particular case a 'blue blooded' *shikari*, following his *mawabi* pursuits of an era that is long past, found it acceptable to not only break the law but to also ignore the ethics that he was expected to have imbibed through his superior (?) upbringing and grooming. The animal he is alleged to have shot was a female!

Ranjit Talwar
rtalwar@wwfindia.net

The Buck Stops with the Tiger

Passing the Buck. This was the title of the 30-minute documentary which I saw in 1985. The film opens to the soft strains of Ravi Shankar's sitar as a prelude to a dramatic sunrise. The sky was awash with shades of pink, flaming orange and pearl-grey moments. As the orb ascended and grew larger, in its centre appeared a black dot. The dot came closer and grew bigger till it attained the profile of an aircraft. On the tarmac of an airfield somewhere in Pakistan, this huge US military cargo aircraft taxied to a halt close to a posse of sombre bureaucrats. As the cargo of six large wooden crates touched the soil of Pakistan, Ravi Shankar's sitar strains lifted to a soul-stirring crescendo. Six pairs of blackbuck had arrived from Texas, USA, to reclaim the home of their forbears.

For once, passing the buck was not a mere idiom but a real-life happening to reestablish the species in Pakistan. Ravi Shankar was so saddened by the extinction that he especially composed the music for the film. He wanted to spread the message of compassion for wildlife. When watching the film, it never crossed my mind that just two decades later, a Cambridge-educated Indian from a cultured family would join rich friends to hunt a blackbuck and two rabbits when our law does not permit so.

Blackbuck is endemic to the Indian subcontinent alone, that is it is not found anywhere else in the world. However, back in the 1960s the US Department of Fish and Wildlife had launched a programme to introduce select 'game' birds and mammals to the USA from other continents. Blackbuck, blue bull, chikar, kaleej pheasant and black partridge were short-listed for introduction from the Indian subcontinent.

Happily, all of them are flourishing there as exotics normally do. The idea was not to create a living gene pool but where Pakistan is concerned that is precisely what it came to mean for the blackbuck. If we in India remain complacent about poaching, one day we too may face the sad situation faced by Pakistan. Birds and animals have been part of our mythology, folklore and literature since time immemorial. The Mughal court patronized the use of birds and animals as essential elements in the composition of landscapes and portraiture. The painters of the Rajputana and Pahari Schools used animals and birds freely in their creations. Take for instance, the book *Flora and Fauna in Mughal Art* (Marg

Publications 1999). Its jacket is adorned by a magnificent portrait of a blackbuck (circa 1610-20 from the Metropolitan Museum of Art, New York). Among my favourites in this book is the depiction of 'King Solomon's Court', attributed to Madhu Khanzad (circa 1600, collection of the Aga Khan). Solomon, seated on his throne, supervises the feeding of birds and animals of all imaginable species gathered around him. There is a line of servants bringing trays heaped with food. The two rabbits in the front are flanked by a pair of blackbuck. The very same animal was allegedly killed recently by M.A.K. Pataudi and his friends.

In another Marg publications, *Painters of the Pahari Schools* (1998), there is a creation titled 'Princes with blackbuck' (attributed to Chhajju Chamba, circa 1800). The princess is the epitome of refined beauty. She plays a stringed instrument for the benefit of her pet, a well-groomed black buck. The blackbuck's look of adoration of his mistress is simply mesmerizing. It is unthinkable that anyone would hunt such a delicate animal; surely not Pataudi, who comes from a family which had espoused the unwritten code of ethics of field sports.

But the beauty lines and grace of the blackbuck and the doe are on best display during the mating season. The doe gather in small exclusive groups. One male establishes dominance by driving all other suitors away, then shows off his prowess to the ladies of his harem. He parades before them with a look of playful arrogance, his head thrown back till the tips of his long, grooved horns touch the tail region. The next moment he may break into a 100-metre sprint, clocking 40-60 kmph. Next he may want to display his agility by leaping 4 to 6 feet in the air while circling on a fast trot around, by now, his admiring harem.

And what of the rabbits. You have to be lucky to chance upon them on a full-moon night; they will put up mock fights or play hide and seek or simply gambol about as though in a trance. It is a show fit for the gods.

You may not have seen the Taj by moonlight nor the sunrise over the Nanda Devi massif, but if you have seen the blackbuck entertain his harem and the rabbits in a 'trance', yours will be a fulfilled life. How can anyone with a modicum of humanity snuff out such innocent lives? If the laws of our land can be compromised by the likes of Pataudi, it is time to close ranks and ostracise such people from society for ever, as natural justice.

The buck stops right here or not at all.

Lt Gen Baljit Singh, ABISM, GSM (Retd.)
Former Trustee of WWF-India

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Living Beyond Our Means

Natural Assets and Human Well-being

Preface

The Millennium Ecosystem Assessment (MA) was called for by United Nations Secretary-General Kofi Annan in 2000 in a report to the General Assembly entitled *We the Peoples: The Role of the United Nations in the 21st Century*. Initiated in 2001, the objective of the MA was to assess the consequences of ecosystem change for human well-being and the scientific basis for actions needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.

The MA has involved the work of more than 1,360 experts worldwide. Their findings on the condition and trends of ecosystems, scenarios for the future, possible responses, and assessments at a sub-global level are set out in technical chapters grouped around these four main themes. In addition, a General Synthesis Report draws on these detailed studies to answer a series of core questions posed at the start of the MA. The practical needs of specific groups of users, including the business community, are addressed in other synthesis reports.

Each part of the assessment has been scrutinized by governments, independent scientists and other experts to ensure the robustness of its findings.

This statement is from the Board governing the MA process, whose membership includes representatives from UN organizations, governments through a number of international conventions, nongovernmental organizations, academia, business, and indigenous peoples.

It is not intended as a comprehensive summary of the findings of the MA, but rather as an interpretation of the key messages to emerge from it. Written for a non-specialist readership, it is nevertheless consistent with the more detailed documents of the assessment and can be read in conjunction with them.

We believe that the wide range of global interests combining to issue this statement, together with the rigorous study on which it is based, should add power and urgency to the conclusions it sets out.

The Board of the Millennium Ecosystem Assessment

Pressures and Changes

The Historical Context

The development of human societies has been a story of changing the natural systems of the planet to sustain ever-more sophisticated and comfortable ways of living—and ever-greater numbers of people.

In early civilizations, the transition to complex social and political structures was often closely linked to major projects engineering those systems for human advantage, such as clearing forests to make way for agriculture and diverting rivers to irrigate crops.

Over the millennia, areas of wilderness were adapted across the planet to enable settled communities to enjoy a secure supply of food, water, energy, and materials. Demand for luxuries in one part of the world could influence natural systems thousands of miles away—for instance, the European taste for sugar and the red textile dye produced from brazilwood changed forever the Atlantic Forest of South America.

With the onset of industrialization, the pace of these changes accelerated as new technology and medical advances made possible the sustenance and survival of rapidly growing urban populations.

Yet throughout human history, no period has experienced interference with the biological machinery of the planet on the scale witnessed in the second half of the twentieth century.

Re-engineering the Planet

Since 1945, more land such as forest, savanna, and natural grassland has been converted for the growing of crops than in the eighteenth and nineteenth centuries combined. Nearly a quarter of the land surface of Earth is now cultivated.

Accompanying this change has been a huge increase in the application of manufactured nitrogen and phosphorus fertilizers. These nutrients are targeted at crops, but in effect they have also fertilized nature as they are washed into streams, rivers, and eventually the oceans. In many places this has led to excess growth of plants such as algae that in turn deprive the water of oxygen and kill other forms of aquatic life.

The amount of water taken from rivers and lakes to irrigate fields, to meet the needs of industry, and to supply households has doubled since 1960.

World Wide Fund for Nature-India and India International Centre invite you to a special screening of films.

Waterworks India: Four Engineers and a Manager

22 minutes, (6:30 p.m.)
Meet five 'ordinary' people, who have kept the intricate traditional science of water management alive from the modern onslaught. These barefoot Indian rural engineers have been practising the tradition of water harvesting for quite some time. The camera moves from the remote gold desert of Leh to Rajasthan and then to the far south in Kerala and Tamil Nadu. This film introduces the viewer to the technique and social management practices governing community water management.

Thar—Secrets of the Desert

52 minutes, (7:00 p.m.)
Watch the diverse social and cultural practices which enabled large populations to survive in the harsh Indian desert environment. The villages of Thar, in Rajasthan, have amazing systems of water harvesting. Similarly, the desert farmer has devised an ingenious system to grow and maintain sources of fodder. Today, it is these villages that have not yet been 'modernized' that have water and fodder during periods of drought, unlike other 'developed' villages which wait for water tankers and fodder trucks from neighbouring states.

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India International Centre
40, Max Mueller Marg,
New Delhi 110003

In the September
2005 Issue



**Rhino
Reintroduction
Programme in
Dushwa**
**Report from
the States**
And much more

The quantity impounded behind dams has quadrupled in the same period, and artificial reservoirs now hold much more water than free-flowing rivers do.

As a result, the flow of some rivers has been substantially reduced. At times the Yellow River in China, the Nile in Africa, and the Colorado in North America do not even reach the ocean. Rivers now transport much less of the sediments that bring food supplies to estuaries and help support vibrant populations of shellfish, fish, and birds. In some areas, however, soil erosion produces an oversupply of sediment, which can cause considerable damage to the local ecology.

The development of coastlines for tourism and activities such as shrimp farming has also dramatically altered the meeting point of land and ocean. In just two decades, it is estimated that people have removed more than a third of the world's mangroves—the dense forests growing in the tidal mud of many tropical regions.

It will probably never be known how many lives were lost in the Indian Ocean tsunami due to the loss of mangroves and damage to coral reefs, but it has been widely accepted that areas with less damage to the natural coastline were better protected from the force of the tidal wave.

The unchanging appearance of the ocean itself belies a major shift in the systems of life hidden beneath the waves, due mostly to the human appetite for fish and the increasing technological efficiency of the fishing industry.

The full consequences of this pressure are still poorly understood, but a recent study estimated that 90% of the total weight of large predators of the ocean such as tuna, swordfish, and sharks has disappeared in modern times.

Moving Species

Another major change might be termed the globalization of nature. As people become increasingly mobile, plants and animals have been transported to parts of the world where they never previously existed, entering the local web of life and sometimes altering it profoundly.

Often this has been deliberate, such as the introduction of domestic livestock or crop species—the unique wildlife of some of the Galapagos Islands, for example, has been severely affected by the arrival of goats.

In many cases, however, it has been an accidental impact of the accelerating human links across the planet. Ocean-going freight ships carry large numbers of sea creatures in their ballast tanks,

which are flushed out at their destination as they load up their holds.

This has led to some remarkable exchanges of species. The Baltic Sea, for instance, contains 100 creatures from outside the region, a third of which are native to the North American Great Lakes. And a third of the 170 alien species in those lakes are native to the Baltic.

Such changes are more than just a question of the purity of nature. A species introduced from outside can dramatically change the local system and the services it provides—for example, the arrival of the American comb jellyfish in the Black Sea led to the destruction of 26 commercially valuable stocks of fish.

Changing the Climate

The change with the greatest potential to alter the natural infrastructure of Earth is the chemical experiment humans have been conducting on the atmosphere for the past century and a half.

The dominance of coal, oil, and natural gas as our sources of energy has released large quantities of carbon previously locked in underground rock layers and has increased the amount of carbon dioxide gas in the air by about a third.

It is now well established that this has changed global weather systems by trapping more of the Sun's heat within the atmosphere, and that these changes will accelerate as the concentration of carbon dioxide continues to grow.

Nature has always adapted to changes in climate, but this shift is likely to pose unprecedented challenges to its resilience for two main reasons.

First, the anticipated speed of climate change is greater than anything seen for at least 10,000 years, making it far more difficult for species to move to more suitable areas or adapt to the new conditions by evolving new survival mechanisms. Coral reefs, for example, have already become barren in some areas through relatively modest increases in sea temperatures, combined with other pressures such as nutrient pollution and overfishing.

Just as important, the options available to plants and animals have been greatly narrowed by the massive changes humans have made to the landscape. Many species are in effect locked into islands of nature surrounded by urban or intensively farmed regions, shutting off "escape routes" and making them highly vulnerable to climate change.

Reducing Diversity

An outcome of all these changes has been to reduce significantly the variety of species that can be found in many individual areas, and on the planet as a whole.

Converting rainforest into cropland, river banks into reservoirs, or marshes into parking lots will not end all natural processes, but it will tend to produce a less diverse landscape excluding many of the species previously occupying the space.

We cannot be precise about the overall scale of the change, since it is estimated that science has only identified some 10% of the species on Earth.

However, we can say that the majority of species across a range of different categories such as amphibians, farmland birds, and Caribbean corals are declining in abundance or in the area occupied by their populations.

Some 12% of birds, 25% of mammals, and at least 32% of amphibians are threatened with extinction over the next century.

Although actual disappearance of a recognized species is quite rare in terms of human time scales, it is estimated that people may have increased the rate of global extinctions by as much as 1,000 times the "natural" rate typical of Earth's long-term history.

Invasive Species around the World

The **Nile perch** (*Lates niloticus*) was introduced to Lake Victoria in 1954 to improve fishing and has contributed to the extinction of more than 200 local species, which were relied on by local fishers.

The **Zebra mussel** (*Dreissena polymorpha*) native to the Caspian and Black Seas arrived in Lake St. Clair in the ballast water of a transatlantic freighter in 1988, and within 10 years spread to all of the five neighboring Great Lakes. The mussels form massive colonies and clog underwater structures such as power station outlets, and have greatly reduced the population of native mussels. The economic cost of this introduction has been estimated by the US Fish and Wildlife Services at about \$5 billion.

The **North American comb jelly** (*Mnemiopsis leidyi*) was carried in ballast water to the Black Sea in the early 1980s. A voracious feeder on zooplankton and fish larvae, it has changed the entire ecosystem and contributed to the collapse of more than two dozen major fisheries. The jelly has also invaded the Azov, Marmara, and Aegean Seas and most recently arrived in the Caspian via oil tankers.

The introduction of **bass** (*Cichla ocellaris*) to Gatun Lake, Panama, has reduced the numbers of other fish that feed on mosquito larvae, damaging local efforts to control malaria.

The **brush-tail possum** (*Trichosurus vulpecula*) was introduced from Australia to New Zealand and nearby islands, with devastating impacts on forest systems. The marsupial damages native forests by selective feeding on foliage and fruits. It also preys on bird nests and carries bovine tuberculosis.

A form of **cholera** (*Vibrio cholerae*) previously reported only in Bangladesh apparently arrived via ballast water in Peru in 1991, killing more than 10,000 people over the following three years.

The **rhododendron shrub** (*Rhododendron ponticum*) was introduced to Great Britain from Asia as an ornamental garden plant in the 19th century. It spread to woodlands, where it inhibits regeneration of trees both by casting a dense shade and by forming a layer of undergrowth.

The **brown tree snake** (*Boiga irregularis*) transferred from Papua New Guinea to Guam in plane wheel-wells, leading to the loss of 10 of 13 species of native forest birds and several lizard species. Frequent power outages occur as the snakes come into contact with electrical lines and generation facilities. The cost to the island's economy of this single invasive alien species is estimated at \$5 million a year.

The **water hyacinth** (*Eichhornia crassipes*), native to the Upper Amazon Basin, has been used as an ornamental plant since the mid-19th century. By 1900 it spread throughout the tropics. It clogs waterways and infrastructure, reduces light and oxygen, and causes severe damage to fisheries and navigation.

The **golden apple snail** (*Pomacea canaliculata*), native to the Amazon, was introduced as a food source to Southeast Asia and is now a major rice pest in Indonesia, Thailand, Cambodia, Hong Kong, southern China, Japan, Taiwan, and the Philippines.



▲ Nile Perch



▲ Water Hyacinth



▲ Brush-tail Possum

WPP/Edwin/John E. Newby

Michael Thompson

WPP/Edwin/John E. Newby



▲ Pulkit and Yavnika Khanna with their paintings

Vatsalaya—Art with a Heart

Young Arti-vists Celebrate World Environment Day

I first met Yavnika Khanna a couple of months ago when she came to the WWF office. She was promoting her passion, her love of animals expressed through paintings. Both Yavnika, who is only twenty and her younger brother Pulkit, seventeen, who has just finished his class twelve exams, have been painting animals from their pre-teens. It was in 2003 that the brother-sister duo first launched their 'Awareness through Art' campaign at the India Habitat Centre. Then in 2004 during the Animal Welfare Fortnight they did an exhibition of their paintings, followed with film shows, nature walks, colouring and clay modeling contests at the Delhi Zoological Park to raise people's awareness and compassion about the animals they share the planet with. And needless to say, the prizes for the contests were saplings. This year, in celebration of World Environment Day the duo had an exhibition of their paintings they had done over the last eight years, at the Visual Arts Gallery, India Habitat Centre. So I went to see their exhibition at the Habitat Centre which was on from 5 to 9 June. Beautifully exhibited, all round the walls were paintings of animals in their natural habitat, many depicting mother and child. They were done in Indian ink, water colours, crayons and acrylic on recycled paper. The exhibition was dedicated to their mother (who has encouraged them in this and given them all the support they needed) and as Yavnika explained to me their paintings showed a mother's love for her child, something which cuts across species. Hence the name *Vatsalaya*, a mother's love (though I would spell it *vatsalya*).

It was very refreshing to make the acquaintance of these two youngsters who delightfully call themselves arti-vists, not activists and who are conscious of what is happening to our environment and feel responsible enough to give of their time, energy and money to do what they can for the conservation of our environment.

You can contact them at yavnika@gmail.com and pulkit.khanna@gmail.com or go to their website www.vatsalaya.blogspot.com.

Sikha Ghosh / sghosh@wwfindia.net

Joining Hands for Urban Renewal

WWF-India Celebrates World Environment Day

The World Environment Day on 5 June was first observed by the United Nations General Assembly in 1972 to mark the opening of the Stockholm Conference on Human Environment. This day was also when the United Nations Environment Programme was created.

The World Environment Day is celebrated the world over and we at WWF-India Secretariat in New Delhi did so by inviting the young to join in the celebrations. Students drawn from various schools and colleges took part in various activities and events to mark the significance of the day and underscore the globally endorsed theme for this year's celebrations—**Green Cities: Plan for the Planet!**

Nature conservation and sustainable urban development are vital as cities do not exist in isolation and they depend on sustainable use of natural resources. The impact of unwise use of the environment travel far—across space and time—so planning for a green city is in effect to a plan for a larger landscape, a sustainable socio-ecological system that will help all of us who live in it.



▲ From l to r: Madhur Das, Roshan Seth and Lima Rosalind.

We involved children, adolescents and youth for they bring in new ideas, energy and inspiration to plan for an environmentally sustainable city—with sustainable production and consumption, and equity in the distribution of ecological goods and services. These are issues that come uncomfortably close to us when we start introspecting and analysing ourselves and our surroundings. Delhi's 14 million and steadily growing inhabitants with their burgeoning economic activities and social desires need to take a close look at the environmental fragility of their city and the degradation that has taken place and appreciate some of the social, cultural and ecological efforts underway to help heal their city. This will, one hopes, engender love and respect for their environment and make them strive for sustainable lifestyles.

The noted theater personality and writer Roshan Seth who attended the World Environment Day celebrations said to the participants that in order to assume responsibility towards ecological betterment we all need to respond to the most immediate symptoms of disorder. He used the example of a broken window. Each time we fail to mend it, the situation becomes worse. By mending early we save the situation from further degeneration. By responding to a problem we become successful agents of change and can observe the impact of our actions. Further, the root cause can often be traced to individual actions and this is especially true in the urban context where affluence and conspicuous consumption reach irrational levels to the detriment of our ecology.

Referring to unplanned growth Ravi Singh, Secretary General and CEO of WWF-India said, 'Rapid industrialization of this kind will lead to great strain

on the natural resources, energy production and contribute to the ever increasing degradation of land and water, polluting our coasts and seas and depleting our aquifers. With the involvement and initiative of people, it is possible to plan spaces which are conducive for both us and our children.' Lima Rosalind, Director, Environment Education Programmes, WWF India, said, 'We are using the World Environment Day as a platform to bring people's attention towards doing a deed for saving the environment. Any conscious effort would go a long way in bettering the environment. We have one earth and it's very important to save it. We have inherited the earth for our children. Leave them a living planet.'

The youthful participants could not have driven these messages more emphatically as they did through their paintings and posters. Through these they expressed their deep engagement with environmental issues and indicated their capacity



to look inward and outward. That art can be meditation was abundantly clear when we watched a group of children engrossed in painting pebbles and converting scraped-out coconut shells into beautiful pots for seedlings. Many painted their faces with the colours and shapes seen in nature and the Secretariat resounded with their happy voices and bright faces.



A nature trail to the nearby Lodi Garden had been organized and participants marveled at the bio-geo-chemical processes that intricately weave water, soil, trees, birds and insects that help the garden flourish and bring joy and peace to many who visit it. Another event was the quiz programme where both the young and the old participated and with great enthusiasm faced questions on wildlife, ecology and environment. An informative slide show on sustainable cities helped put the importance of the day in perspective. It raised issues of sustainable and clean transportation, waste management, and a green cover as critical requirements for a green city. Posters addressing the irrationality and non-sustainability of the 'no limits to growth' mantra were put up all over the venue for the occasion.

A street play on the menace of plastics to the environment was performed by a group from Pravah, an NGO. A short dance drama on the earth – its beauty, its destruction, the promise of conservation and the hope of redemption was performed by a group of college students from Netaji Subhash Institute of Technology. Of the three hundred people who came to attend this celebration, sixty-six children were from Prayas (an NGO which looks after orphaned

children). It was a great experience for them and they threw themselves wholeheartedly into all the activities organized. Several of them won prizes for painting. Over twenty volunteers from different colleges and institutes of Delhi along with the staff of WWF-India worked for weeks preparing for this event.



The day thus reiterated our environmental commitment to better our cities and work towards our ecological security.

Atanu De / ade@wwfindia.net

WWF-India thanks Luxor India and Hewlett Packard for providing help with this event.

Student Spotlight: Harendra Singh Bargali, India

I chose Harendra ("Haren") for this Student Spotlight despite the fact he has already received his Ph.D. When I met Haren at the IBA San Diego meetings, he was still a student, and I had the opportunity to take note of his determination despite daunting obstacles. Haren remains very involved with the IBA Student Forum, and has been an inspiration to many of us. He received a research fellowship from the Wildlife Institute of India during 1998-2001, and conducted his research on sloth bear ecology and mitigation of human-bear conflict. Working conditions in the field were very difficult (mentally and physically), given the nature of the reports he investigated about human maulings and killings. Like many of our students, he had to deal with never-ending shortage of funding and red-tape. Haren was accompanied by great team members, who collaborated with him to present ten papers at the IBA meetings, and publish two papers in *Ursus*. As a senior Project Officer, Haren now works with WWF-India whose focus is to develop a conservation plan for the world famous Keoladeo National Park in India. Part of this plan includes the development of a detailed bear map of India with information about status and distribution, human conflict, and crop and livestock damage, so that priority conservation areas can be identified. Part of the responsibility includes raising the funds to develop this conservation strategy. He has been tireless in writing proposals and networking to get the job done. Despite many disappointments and challenges, Haren is a perfect example of someone who is determined to complete his vision.



▲ Haren with a Sloth Bear

Haren, never give up—never surrender! We are behind you all the way!

(Reproduced from the International Bear News, May 2005 vol. 14 no. 2.)

It is very nice to see a colleague's work being acknowledged by an outside organization. Haren is a friend and based in Keoladeo National Park. He pops up at the Secretariat when there is work here in Delhi. So when I saw the Student Spotlight I was very pleased. One error in the article (a printing error I think), which however, I would like to set right—Haren is looking after the Salim Ali Visitor Interpretation Centre at the Keoladeo National Park. Whereas Haren has future plans to develop a detailed bear map of India and raise funds to develop a conservation strategy for bears, these are not part of WWF-India's plans. Haren's Ph.D. is on the sloth bear. He worked with the BBC team in 2001 when they were making a documentary on sloth bears and provided them with technical inputs. He is also a member of the International Bear Association (IBA) and one of the experts of IUCN/Bear Specialist Group (BSG) 'Sloth Bear Expert Team' in India. With all this interest in bears and messing around with them you'd think Haren may begin to resemble them. Not at all. He is a tall, handsome fellow and I think he knows it!

Sikha Ghosh / sghosh@wwfindia.net



for a living planet



Lesser Flamingo (*Phoeniconaias minor*)

The birds, photographed at the at Sewri mudflats, Mumbai, arrive in thousands from the Kutch region after the monsoons and create a breathtaking scene against the backdrop of a Mumbai industrial belt.



kids' zone

The Pink Lining to Mumbai Disappearing? *Flamingos of the Sewri Mudflats*

Flamingos are one of nature's most beautiful birds. They are highly gregarious and are encountered in large, closely packed flocks sometimes running into several thousand individuals. They frequent shallow waters of lakes, coastal lagoons and inland waters. The two species that occur in south Asia are the Greater Flamingo (*Phoenicopterus roseus*) and the Lesser Flamingo (*Phoeniconaias minor*).

Flamingos are filter feeders and the Flamingo beak is suitably adapted for the purpose of sieving and filtering food particles from the shallow waters. Their main diet consists of plankton, small crustaceans, algae and other organisms. The beak is used to filter out unwanted particles, allowing only food particles of a particular size to be sucked in.

Flamingos are highly irregular breeders and very sensitive to disturbance particularly during the breeding season. A social stimulation is necessary for a breeding colony to be established. The erratic breeding biology of the species is characterized by the fact that even under favourable conditions these birds may not breed. Most breeding colonies are in inaccessible places so that there is little disturbance. One of the most famous Flamingo breeding sites is in the Little Rann of Kutch in Gujarat. However, in recent years, due to climatic and environment changes fewer birds have been reported breeding here.

Nests are upright mounds, baked hard by the sun, with a depression to receive the one or two eggs laid. The chicks have white downy plumage and are fed with regurgitated food by the parents. It takes the chicks two/three months to learn to fly. The pinkish plumage is attained at four/five years of age.

The over-exploitation of wetlands has led to changes in their migration pattern and erratic breeding profile. Intensive prawn farming and release of sewage and industrial effluents in coastal inlands are affecting Flamingo populations.

Prakash Rao / prao@wwfindia.com



A photograph I had seen of flamingos in flight with concrete buildings in the background is what prompted me to dive into the world of the Sewri flamingos. A call to the BNHS and the following Sunday, I was with the BNHS flamingo watch at Sewri, Mumbai.

The greater flamingo or *Phoenicopterus roseus* and the lesser flamingo *Phoeniconaias minor* are the two species which are found in India. These birds are found in a variety of habitats ranging from lakes to mangroves. The Rann of Kutch is the largest breeding colony for these birds.

Sewri-Mahul is an unprotected site although some portion has been declared as prohibited area under the Bombay Port Trust and the Bhabha Atomic Research Centre (BARC) notification.

The flamingos feed on the algae found in these waters. Their hook-like beaks filter the water like a sieve and, their tongue works quite like a high speed pump pushing in water from which the algae is trapped.

The birds at Sewri mudflats typically arrive from the Kutch after the monsoons. The best time to watch these birds is about an hour after high tide. During high tide these birds float on the sea in tight pink groups far away from the land. As the tide recedes, the first bunch of flamingos flies in towards the beach to feed.

The sight of a flamingo flock in the air is one that always brings out the oohs and aaahs from

the spectators. These birds were closest to the jetty from where we were watching them. As the tide pulled out, the flamingos moved further and further away towards the sea, following the receding waters.

The Sewri mudflats are also home to other birds and I spotted egrets, sandpipers and also an ibis and a spoonbill while I was there.

The concern today is the proposed Sewri-Navha Seva flyover project which passes very close to the flamingo habitat. The 24-km., 8-lane Trans Harbour Sea Link is from Sewri to Nhava to connect Mumbai (the mainland) with Navi Mumbai. Environmentalists, although not against the project, are recommending rerouting of the flyover so as to protect the fragile flamingo habitat, and these photographs are my contribution to help safeguard this fragile ecosystem for the future.

Bombay though a concrete jungle does have immense swathes of mangroves all along its coastline. These mangroves are a fragile ecosystem and are a host to the flamingos. Each year these wonderful birds fly in the hundreds from the Rann of Kutch in October/ November and stay on till the onset of the monsoons. Best time to catch a glimpse of these birds is after high tide. BNHS organizes regular flamingo watch trips to Sewri during the season.

Krishnan V. / shutterbugin@gmail.com

A Dwindling Bird Haven in Sareli

For nature lovers and ornithologists it may be interesting to know that the village with the highest number of Openbill Stork (*Anastomus oscitans*) breeding colonies is in Sareli. The village of Sareli is in the Mitauli block of Kheri district in Uttar Pradesh. It is situated 40 km. from the district headquarter Lakhimpur on the Maigaljanj road. The area is a good bird habitat and water is available all year round. The villagers welcome and protect this bird in the belief that they bring the monsoons every year. The bird is called *Pahari Chirya* or *Baktewia* by the villagers. The storks concentrate near the water bodies in Sareli at the beginning of the monsoons. The birds arrive at the village in the first week of June and depart in the last week of October. These birds are local migrants. There are approximately 1000 birds nesting here every year. The preferred nesting trees are the Peepal, Bargad, Babool and Neem. A total of 265 nests of storks were counted in 2001.

There is an interesting story surrounding these birds at Sareli going back to pre-Independence days. At that time the village was under the rule of Mahmoodabad (*Riyasat*). Around 1905 an estate officer from Mahmoodabad came to the village and shot many storks. The villagers were afraid to protest, but the village chief, Baldev Prasad was not, and he beat the officer up for shooting the birds. The officer filed a case in court. When the case came up Baldev Prasad was asked what he had to say in his defence. He replied that the birds belonged to him and were tame. 'How do I know that these are your tame birds?' asked the magistrate. Then a wonderful thing happened. Baldev Prasad called out to the birds and they came flying to him where he stood. The case was dismissed. Since then the descendants of Baldev Prasad have protected these birds.

There are nineteen species of storks in the world. Out of which eight species are found in India. The Openbill Stork of the genus *anastomus*, are widely distributed throughout the tropical regions of Africa and Asia.

Many species of wading birds like the Black-necked Stork, Painted Stork, Woolly-necked Stork and the Adjutant Stork which were commonly seen in this region have now become rare due to

wetland losses and hunting of the birds outside the village.

Storks feed on aquatic snails which are carriers of helmintheases caused by trematodes. The most significant infection is Schistosomiasis, which can result in chronic liver and bladder damage. Another trematode caused disease, Fascioliasis, is found mostly among herbivores, primarily sheep that graze in wet pasturages where the intermediate hosts, snails of the genus *Lymnae*, are found. When humans get infected with this they suffer severe damage to the biliary duct. One good natural way of preventing this disease is to protect and conserve the Openbill Stork.

These birds face many threats. Most people in this area being agriculturists, there is more and more demand for land. Expanding agriculture is taking over the Storks' habitat, the wetlands. Apart from this there is demand for land for residential purpose. Increasing commercialization of agriculture has led to the heavy use of harmful pesticides which adversely affect the birds. Kites, Rat-snakes and people poach on the eggs of this stork. Another serious threat to the birds comes from the felling of trees for timber and fuel wood which means that the storks are losing their nesting sites.

The villagers of Sareli are protective of the storks, something which has become a tradition, but they have no understanding of conservation of habitat, or habitat degradation. The coming generations may not show the natural kindness which is shown to the birds now, and so it is time that something was done for these birds.

Krishna Kumar Mishra / krishenk2000@yahoo.com



Krishna Kumar Mishra

▲ Openbill Storks in their nests in village Sareli.



Krishna Kumar Mishra

Role of Information Technology in Environmental Governance



Speakers and Delegates at the workshop 'Vision Interface—NGOs in Governance'.



Information Technology (IT) has become very valuable in matters of Policy Advocacy and Governance. The President of India while talking of Vision 2020 said that IT has the potential to modify extensively the life-styles of each and every individual by transmitting correct and authentic information available at that time. IT has played an important role in India's economic growth in the last fifteen years.

Though IT has spread all across the country's market economy, the profits have not reached rural India. The need of the hour is to avail of IT's capacity to transport information to all the villages of India. Until such time the country cannot really be said to have achieved an 'IT Revolution'. And India, as Gandhiji said, 'lives in villages'.

If IT is involved in environmental governance, it can be a tool for quick dissemination of data and information broadcasting, and it will be paperless as well. The Science and Technology Policy of our country stresses the importance of indigenous rights and innovations, practised on the lines of sustainable development. The importance of environmental care is a necessity, so any work done to promote conservation, preservation and alternative technology should be given prominence. But if IT is to play a vital role then it must be made clear where the information will be stored, how quickly it will be disseminated, and who the beneficiaries will be. Villages could become centres for promoting policy objectives and non-governmental organizations (NGOs) can help them to do so by collecting, collating and disseminating the information from the location where their work is based. This would empower villages and also strengthen the networks of (environmental) NGOs who are working towards dedicated sustainable development.

The Ministry of Environment and Forests (MoEF) has already made efforts towards initiating e-governance practices. The MoEF has promoted the setting up of ENVIS centres across the

country. This initiative has facilitated local and regional information collection and filing.

WWF-India's Role

Under this scheme of the MoEF, the Indira Gandhi Conservation Monitoring Centre's (IGCMC) effort has been to ensure transparent, quick and accurate availability of information to all interested parties and stakeholders.

According to the ENVIS Centre at the IGCMC at WWF-India, across the country there has been a more or less uniform rise in the number of NGOs involved in activities related to aspects of this problem. For example, in Andhra Pradesh alone, the number of registered NGOs rose from nineteen in 1984 to 129 in 2004.

Over the last two decades WWF-India has been publishing the detailed and popular Annual Directory of Environmental NGOs in India. Recently, the IGCMC held several workshops and seminars on information issues with the help of the MoEF.

Earlier this year, on April 28 and 29, the WWF-India's ENVIS Centre conducted an intensive workshop on 'Vision Interface—NGOs in Governance'. One of the topics discussed during this workshop was the role of IT in 'Environmental Governance'. It gave details on the benefits of having a centralized resource centre which could provide access to all sorts of information related to environmental issues to all member organizations. The presentation was prepared on the lines of Management Information System (MIS). A series based on this format were screened for the participants to get their feedback and to discuss any technical questions they had regarding it. The formats included a questionnaire on NGOs, their status, and the methods of information sharing.

Abhinandan Saikia / asaikia@wwfindia.net
Rajeev Kumar / rkumar@wwfindia.net

Five Treasures of the Snow

Panda
June 2005

Khangchendzonga Landscape

For the people who live in Sikkim Khangchendzonga means 'Five Treasures of the Snow'. This is perhaps because this mountain range has five peaks (of over 8000m.). However, from the wildlife point of view, the five treasures could just as well be the snow leopard (*Uncia uncia*), red panda (*Ailurus fulgens*), blood pheasant (*Ithaginis cruentus*), satyr tragopan (*Tragopan satyra*) and the Rhododendron (*Rhododendron niveum*) all of which have been reported to occur in the landscape that the Khangchendzonga mountain ecosystem supports. This landscape is located within the Eastern Himalayas and has the richest biodiversity of the entire Himalayan range and has justly been recognized as one of the twenty-five Biodiversity Hotspots of the world (Myers et al., 2000). Earlier this was the part of the Eastern Himalayas Biodiversity Hotspot (Myers 1990) and at present is included in the larger Indo-Burma Hotspot (ibid.).

This landscape with a total area of 11,500 sq. km. has been declared a priority landscape by the WWF and ICIMOD (2001). There are a total of eleven Protected Areas in this landscape shared by Nepal and the Indian states of Sikkim and West Bengal. These are the Khangchendzonga National Park (NP), Barsey Rhododendron Wildlife Sanctuary (WLS), Maenam WLS, Singha Rhododendron WLS, Fambong Lho WLS, Kyongnosla Alpine WLS and Pangolakha WLS in Sikkim, Singhalila NP, Neora Valley NP and Mahananda WLS in West Bengal and the Kanchenjunga Conservation Area in Nepal.

The snow leopard and the red panda, identified as important biological target species for the eastern Himalayas in several biological analyses (WWF and ICIMOD 2001 and CEPF 2004), inhabit this landscape. The snow leopard is believed to range over an area of about 2066 sq. km. area within this Landscape, whereas the red panda has a far smaller distribution range, that of 102 sq. km. (WWF and ICIMOD 2001). Studies on the red panda show that the species exists in the Khangchendzonga NP, Barsey Rhododendron WLS, Maenam WLS, Singhalila and Neora Valley NPs (Sharma and Lachungpa 1998). However, more detailed studies are required to estimate the population of these two species. The state governments of Sikkim and West Bengal have expressed a strong desire to ensure the propagation of the species and that it is treated as a conservation priority. The red panda has been selected for ex situ conservation in the Padmaja Naidu Himalayan Zoological Park, Darjeeling, and two captive-bred individuals have been released in the Singhalila National Park in 2003-4. Apart from



Openturf Ghose / WWF-India

these two charismatic species, this landscape also has several other important biological and ecological features of conservational importance, which include several globally threatened species like the clouded leopard (*Neofelis nebulosa*), Himalayan tahr (*Hemitragus jemlahicus*) and the blue sheep (*Pseudois nayaur*), to name just a few.

Not enough species specific conservation effort has been made in the Indian part of this Landscape. Targeted species conservation (involving robust infrastructure) on the lines of Project Tiger or Project Elephant has been absent here. Though studies on the status and distribution of focal species have been conducted, specific conservation efforts to safeguard the existing populations of threatened species are lacking. Habitats of snow leopards within this landscape are threatened by yak farming and other anthropogenic disturbances. The habitats of red pandas too, face threats from forests being cut down for settled agriculture or shifting cultivation. Cattle grazing, uncontrolled tourism, and extraction of forest products also pose threats to the habitats.

WWF-India is working in this Landscape and is charting the area on the basis of its biological resources and richness. For the first year, WWF will facilitate the development of an integrated programme involving all stakeholders for the long-term conservation of the Khangchendzonga Landscape. This will mean using GIS based analysis of the biodiversity of the Landscape, forming conservation coalitions with the Forest Department, G. B. Pant Institute for Himalayan Environment and Development, The Mountain Institute and other NGOs working in Sikkim and the region. All out effort and the cooperation of all stakeholders are required to not only map the present distribution and status of the threatened species, but also to mitigate the threats and address the conservation needs of these species.



▲ Snow leopard (*Uncia uncia*) in winter

COP – I Meeting at Punta del Este, Uruguay

A Joint Venture of
WWF-India, Dept of
Marine Science,
University of Calcutta
and Boolean Logic
Pvt. Ltd.

WWF-India has achieved a remarkable revolution in the field of coastal aquaculture. With specially formulated feed and regular monitoring of hydrological parameters, the organization is going to open the gateway to sustainable aquaculture in the Indian Sundarbans. Our endeavour has:

- Introduced the sustainable polyculture system (culture of three species in the same unit).
- Increased the growth of cultured fish (shrimp, *Liza parva* and *Liza tade*) 3 to 3.5 times more than the controlled experimental ponds (where formulated feed was not applied).
- Increased the protein level in the cultured fish in comparison to those in the wild.
- Arrested the pollution load in the ponds in terms of organic load and microbial level.
- Opened a gateway to alternative livelihood by involving people in the preparation of fish feed from marine floral extracts.

We are dedicated to our motto of biodiversity conservation and our newly formulated fish feed will not only improve the economic level of the beneficiaries, but will also help to regain the lost aquaculture of this country. We are trying hard to replicate our ecofriendly technology as a component of nature conservation and bring more coastal people under our banner.

The first Conference of the Parties (COP-I) to the Stockholm Convention on Persistent Organic Pollutants (POPs) was held from 2-6 May 2005, at Punta del Este, Uruguay. Over 650 participants, representing more than 132 governments, intergovernmental and non-governmental organizations, and UN agencies, attended the session.

The Stockholm Convention—A Brief Background

The use of chemicals and pesticides in industry and agriculture saw a dramatic increase in the 1960s and 1970s and this particular group of chemicals named as Persistent Organic Pollutants (POPs) attracted international attention because of a growing body of scientific evidence indicating that exposure to very small doses of POPs can lead to cancer, damage to the central and peripheral nervous system, diseases of the immune system, reproductive disorders and interference with normal development of infants and children. POPs are chemical substances that persist and accumulate in living organisms, adversely affecting human, animal and wildlife health and the global environment. Further, the evidence that these substances were being transported to regions where they had neither been produced nor used, made the international community take cognizance of this and call for global action to reduce and eliminate their release in the environment. In March 1995, the UNEP Governing Council invited the International Programme on Chemical Safety to initiate an assessment process regarding a list of twelve POPs. The working group in June 1996 concluded that enough information existed to demonstrate the need for global international action and the Governing Council requested that UNEP together with other international organizations convene an Intergovernmental Negotiating Committee (INC) with a mandate to develop an internationally legally binding document to implement international action beginning with the 12 POPs.

The Stockholm Convention calls for international



▲ The WWF Team

action on twelve POPs grouped into three categories:

Pesticides: Aldrin, Chlordane, DDT, Dieldrin, Endrin, Heptachlor, Mirex and Toxaphene

Industrial chemicals: Hexachlorobenzene (HCB) and Polychlorinated biphenyls (PCBs)

Unintentionally produced POPs: Dioxins and Furans.

COP - I

Despite having an ambitious agenda, the COP-I succeeded in the following decisions required by the Convention:

- providing for the evaluation of the continued need for DDT use for disease vector control; establishing a review process for entries in the register of specific exemptions;
- adopting guidance for the financial mechanism and establishing a schedule for reporting; establishing arrangements for monitoring data on POPs;
- adopting rules of procedure and finance; adopting the budget for the Secretariat; and
- establishing the POPs Review Committee.

Other matters scheduled for discussion included:

- the format for the DDT Register and the Register of specific exemptions;
- the process for developing guidelines to assist Parties in preventing the formation and release of unintentionally produced POPs; and
- guidelines on best available techniques and best environmental practices.

COP-I's work was characterized by efficiency, and by a collegial spirit that some referred to as the 'spirit of Punta del Este'. Yet, the meeting was not without controversy, as discussions relating to the setting up of expert bodies and also financial and technical assistance continued until late night. Nevertheless, the smooth resolution of the large majority of these disagreements served to maintain the good spirit of the meeting, an auspicious beginning upon which the Convention will base its future work.

The WWF delegation consisted of five members. The team was led by Clifton Curtis, Director-Global Toxics Programme, WWF International. Others in the team included Lin Li, Senior Programme Officer, Global Toxics Programme; Brettania Walker, Toxics Officer, WWF International Arctic Programme, Yukio Murata, Toxics Programme, WWF Japan and Dr Anjana Pant, Coordinator Toxics, WWF India.

High Level Segment

The President of COP - I, Mariano Arana (Uruguay) opened the high level segment on 5 May 2005. The UNEP Executive Director, Klaus Topfer talked about the importance of multilateralism and synergies among environmental agreements. Sheila Watt-Cloutier, Inuit Circumpolar Conference presented an Inuit carving of a drummer to President Arana symbolizing the North-South connection. Leonard Good, Chair and Executive Officer of Global Environment Facility (GEF) reiterated GEF's commitment to continue its support for successful implementation of the convention.

On 6 May, 2005, the President of Uruguay, Dr Tabare Vazquez was introduced by President Arana and welcomed by Director Topfer. Dr Tabare Vazquez welcomed the COP - I participants and said being an oncologist, he sympathized with the matters addressed by COP - I and called for the implementation of the

convention. He also highlighted the connections between poverty and environmental degradation and the importance of international cooperation to realize the goals of the convention's global objectives.

Country Statements

Various ministers and heads of delegations made statements on issues such as involving the health sector in the National Implementation Plan development, guidelines for Best Available Technology and Best Environmental Practices, implementation and costs of technical transition, synergies between other environmental conventions and their existing centres for better technical assistance while new centres developed. The importance of developing alternatives to POPs was brought to the fore by some countries. Rising public awareness on POPs and capacity building were also highlighted.

The International POPs Elimination Network said that elimination of POPs was the Convention's goal and called for the additional list of POPs and chemicals with similar properties. WWF brought to the delegate's attention its report outlining twenty chemicals suitable for nomination to the convention. WWF also highlighted the participation of NGOs in all chemical-related fora.

Closing Plenary

All the parties adopted the report of the meeting without any amendment and Buccinni announced that COP II would be held in the first week of May 2006 in Geneva, Switzerland. As delegates bid farewell and congratulated COP President Mariano Arana, Mark Hyman who chaired the Committee of the Whole, and Executive Secretary John Buccini, on the smooth and efficient conduct of the meeting, there was broad agreement that COP-I had successfully put in place all the necessary tools to catalyse implementation of the Convention. All expressed hope that the positive 'spirit of Punta del Este' will carry over to future COPs.

Panda
June 2005

COP - I Meeting at
Punta del Este, Uruguay



Swamp Deer Sighted in Uttaranchal

Satya Priya Sinha

Jhimil Taal is a saucer shaped wetland situated on the right bank of the Ganges in Chidiyapur forest range, in the Haridwar district of Uttaranchal. Situated along the forest belt are a very small pastoral community of Gujjars and a village on the southern side of Jhimil Taal. Most of the people have been here from the

We visited Jhimil Taal on 1 February 2005 to find out the possibilities of reintroducing the rhino in this area. While surveying the area on foot and on elephant back we found traces of hoof marks of Swamp deer. We also heard the call of a stag from inside the tall grasses. Finally from a newly built watch tower we saw thirty-four Swamp deer inside an open patch of grassland along a water channel. We saw nine fully grown stags along with doe and fawn. We collected Swamp deer antlers from the area as evidence and for record. We went to the same area again on 3 February accompanied by Vinod Rishi, Director IGNFA, Dehra Dun and Dr G.S. Rawat of the Wildlife Institute of India and sighted thirty swamp deer. On 6 February the Minister of Forest, Uttaranchal, Nav Prabhat, also visited the area and is now considering declaring the area as Swamp Deer Conservation Reserve.

It is fortunate that the local villagers around Jhimil Taal are vegetarian! Or else the Swamp deer would have been turned into venison and vanished long ago. At a meeting we attended, held by the Uttaranchal Minister of Forest with the local villagers, the villagers expressed their willingness to move out of the area and resettle in another area. The villagers also pointed out the area where they wanted to move. The proposal of relocation of the villagers of Jhimil Taal is now under consideration by the Government. Once this area, measuring 41.8 sq. km., is declared a Swamp Deer Conservation Reserve it will become a stronghold of Swamp deer in Uttaranchal and we can hope to see their numbers going up.

▲ Proposed Swamp deer
Conservation Reserve,
Jhimil Taal, Uttaranchal

1950s and hail from the Punjab, Himachal Pradesh and the Garhwal hills. There have been no authentic data or information of Swamp deer from this area. The area is rich in faunal and floral diversity and boasts four species of deer—the Barking deer, Sambar deer, Spotted deer and the Hog deer. Elephant, nilgai and tiger can be seen here too and there is also a large number of resident and winter migratory birds.

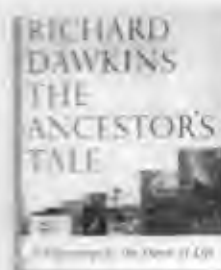
Due to grazing pressure and the presence of the Gujjar community, organic matter flows directly into the Jhimil Taal. It has been observed that nearly half the area of Jhimil Taal is infested with *Typha* (the sword-shaped long grass which thrives on organic refuse). *Typha* is unpalatable and no herbivore will touch it. Fortunately the *Pharagmites karka*, favoured by a large number of wild herbivores, and which is an important component of river and swamp ecosystems, can be found in profusion. The fact that these are flowering is a good sign.

Dr Satya Priya Sinha / sinhasp@yahoo.com
Consultant, Rhino Programme in Uttaranchal
and Project Coordinator, SOS Rhino Project
in Dudhwa

Srikant Chandola
Chief Wildlife Warden, Uttaranchal Forest
Department

From the Library and Documentation Centre

Some Recent Additions:



The Ancestor's Tale
by Richard Dawkins, Weidenfeld and Nicolson, UK, 2004. The Ancestor's Tale is a pilgrimage: a journey of four billion years. We, modern human beings, are the pilgrims, and we are travelling back in time to seek out our ancestors.

Simultaneously every other living creature—animal, plant, fungus, bacterium—is setting on its journey with the same mission. As we travel down the path of time, we meet up with other bands of pilgrims with whom we share a common ancestor.

This is the majestic narrative that holds together this remarkable book. Yet the chronicle of the journey is itself an envelope for the collection of tales told by the pilgrims. These tales cover the processes involved in the unfolding of life on Earth. Enormously rich and diverse, they incorporate the results of recent research which uses the study of DNA to give some startling insights into evolutionary history. The fundamental unifying principle of evolution underlies every tale, and binds them together into this unique history—our history, and that of all living things.



Man Eaters:
An Enthralling Study on the Animals that Prey on Humans

by Michael Bright, Robson Books, London, 2000.

The thought of being eaten alive by a wild animal naturally fills us with horror but this is not a new feeling. While our

earliest primate anthropoid ancestors were plucking the odd insect from the trees, the evidence of skulls bearing teeth puncture marks reveals that they themselves were being snatched by fierce predators. Many millions of years later, as our ancestors came down from the trees and onto the exposed plains of Africa, there is much to suggest that the leopard, for example, was a constant threat.

By living together, communicating and cooperating, people have developed the wherewithal to be effective competitors. Human 'intelligence' generally keeps us safe but if you strip away our sophisticated technology, man becomes a weak and defenceless being, an easy

target for powerful predators. However, the fact remains that wild animals are curiously wary of people, and under normal circumstances avoid us. So what turns an animal to man-eating?



The Atlas of the World's Most Dangerous Animals
by Paula Hammond, Greenwich Editions, London, 2004.

This book features fearsome creatures from every region of the planet—from the lion of the African plains and the Polar Bear of the Arctic wastes, to the Komodo

Dragon of Indonesia, whose saliva carries poisonous bacteria that can kill in hours. The animals span a broad spectrum of wildlife, from large carnivores such as the Grizzly Bear and Great White Shark, whose size and power pose an obvious danger to humans, to smaller but equally deadly species such as the Wolf Spider and the Puff Adder.



In Quest of the Sacred Baboon: A Scientist's Journey

by Hans Kummer, Princeton University Press, Princeton, NJ, 1995.

'This book is for everyone. The author describes vividly the burning sands and rugged cliffs of Ethiopia, and the fierce wild people who make their home in the unrelenting desert. There is

danger and excitement. And there are the hardy and utterly fascinating baboons, with their red faces and silver mantles, the sacred Hamadryas of ancient Egypt. Kummer's scientific talent for observation, his love for his subjects, and his magnificent prose make this a powerful and unforgettable book.'—Jane Goodall



The Collapse of the Kyoto Protocol and the Struggle to Slow Global Warming

by David G. Victor, Princeton University Press, Princeton and Oxford, 2004.

'Victor's analysis makes it clear that in order to design a policy framework that will allow active control of the rate of future climate change, the United States will have to

engage with the emerging new institutions of global environmental governance.'—Mike Hulme, *Times Higher Education Supplement*

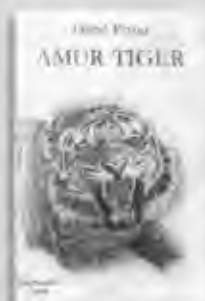


Important Bird Areas in Asia: Key Sites for Conservation, BirdLife International, UK, 2004.



Hunter and the Hunted: Relationships between Carnivores and People

by Hans Krunk, Cambridge University Press, Cambridge, UK, 2002.



Amur Tiger

by David Prynne, Russian Nature Press, UK, 2004



Universe: Young Discoverer Series, Discovery Communications, Inc., 2004.

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